

ABSTRACT OF THE DISCLOSURE

A flow sensor and a flow rate measuring method are disclosed, in which an error caused by dust attached to the flow sensor is accurately corrected taking advantage of the fact that the output characteristic of the flow sensor representing the relation between the temperature measured by a temperature measuring unit and the flow rate of the fluid undergoes a change with the dust attached. A thin-film bridge unit is formed on the surface of a substrate and supported in the air above a space portion of the substrate. A heater for heat generation and the temperature measuring unit are arranged on the surface of the bridge unit. The relation (output characteristic) between the temperature measured by the temperature measuring unit in the initial state and the flow rate of the fluid to be measured is stored in the memory of an operation processing unit. The flow sensor, upon detection of the temperature measured by the temperature measuring unit with the flow rate of zero during the operation, determines the ratio of the value of the temperature measured by the temperature measuring unit with the flow rate of zero in the initial state to the temperature measured by the temperature measuring unit with the flow rate of zero during the operation, and

multiplying the measured temperature ratio by the output of the temperature measuring unit, corrects the output of the temperature measuring unit. Then, the flow rate of the fluid is determined based on the corrected value of the output of the temperature measuring unit and the relation stored in the memory device.